

Title of Invention: Multi-Axes Tool Compensation -- 3D and 5-axis real-time interactive tool compensation inside the CNC machine tool controller.

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Figure 1: Tool Parameter Computer Screen for Defining Multi-Axes Tool Compensation and 3D Tool Characteristics

CNC Machine Tool Parameters Ver 12

Tool Parameters							Tool Definitions (Solid Mode Only)				
Size	Horz	Vert	Height	Wear	Custom1	Custom2	Corner radius	Bottom angle	Side angle	Length	Type
1	0.25	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	30	0
2	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0
3	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0
4	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0
5	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0
6	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0
7	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0
8	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0
9	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0
10	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0

Machine Offsets							
X	Y	Z	4	5	6	7	8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Feature Offsets					
G54	G55	G56	G57	G58	G59
0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0

Optional Settings

☐ Dry Run (Disable Z Spindle Feed Mode)

☐ Bitmap G code Display (Speed Penalty)

☒ Graphics: Solids vs Wire Frame

Tolerance (math and positioning): 0.001

Block Skip Character: /

Teach File Name (No Paths): Teach.X

Fanuc Arc Centers

☒ Absolute (0)

☐ Incremental (1)

☐ R for Radius (2)

Solid Stock

Begin Z @ 0.0

Extra Stock 1.0

F4 key F8 key ? F2 key F1 key

F5 Tool Definitions F6 Tool Life F7 Tool Photos F8 Convert to Metric F9 Convert to Inch